A STUDY TO ASSESS THE EFFECTIVENESS OF HOT APPLICATION ON ABDOMINAL PAIN IN DYSMENORRHOEA AMONG ADOLESCENT GIRLS IN SELECTED COLLEGE AT COIMBATORE.

BY

3O1O3222

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M. G. R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

2013

CERTIFIED THAT THIS IS THE BONAFIDE WORK DONE

BY

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CHERRAAN'S COLLEGE OF NURSING, COIMBATORE.

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING TO THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY,CHENNAI.

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ABSTRACT

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A study to assess the effectiveness of hot application on abdominal pain in dysmenorrhoea among adolescent girls in selected college at Coimbatore was conducted as a partial fulfilment of the requirement for the degree of master of science in Nursing,Cherraan's college of Nursing,Coimbatore,under Tamil Nadu Dr.M.G.R.medical university,Chennai.Objectives of the study were to assess the pain level among the adolescent girls with dysmenorrhoea,to evaluate the effectiveness of the hot application in management of abdominal pain in dysmenorrhoea among adolescent girls,to find the association between the level of pain with the demographic variables of dysmenorrhoea adolescent girls. Hypothesis were formulated such as there will be a significant difference in pain and severity following hot application in dysmenorrhea adolescent girls and there will be significant association between the pain level and selected demographic variable. An experimental study was done among adolescent girls with abdominal pain in dysmenorrhoea.Hot application was given on lower abdomen for 50 adolescent girls were selected respectively by purposive sampling technique.questionnaire and McCaffery numerical pain scale were used for data collection.The findings of the study revealed that there was a significant difference in abdominal pain after hot application in dysmenorrhoea among adolescent girls. The obtained 'Z' value 8.245 was significant at 0.05 level.The study revealed a significant difference in abdominal pain after hot application in dysmenorrhoea among adolescent girls.There are association between some of the demographic variables and pain,They are age,onset of menarche,number of days of menstruation,number of pads changed in a day and family history of dysmenorrhoea.

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INTRODUCTION

CHAPTER - I

INTRODUCTION

Adolescence is a stage of developmental transition, a bridge between childhood and adulthood. It is a time of moving from the immaturity of childhood into the maturity of adulthood. Period of life from puberty to adulthood characterized by marked physiological changes, development of sexual feelings, efforts toward the construction of identity, and a progression from concrete to abstract though it involves progress from appearance of secondary sex characteristics to sexual and reproductive maturity. It is the stage of development of adult mental processes, adult identity and transition from total socio-economic dependence to relative independence.

Adolescents are a source of energy, creativity, initiative of dynamism and social renewal. They learn fast and adapt readily. Given the chance to go to school and find work, they will contribute hugely to economic development and social progress. The action program of the international conference on population and development recognized that adolescents have a special need for information on reproductive need, services and those services must respect the adolescent's privacy.

Reproductive health of women is considered as important and one that has wide spread implication on health ,well being and development of the entire population .Women who fall in the reproductive age group, especially adolescent girls are being neglected in reality. There is a consensus among healthcare providers and researchers' that reproductive age group is a period of marked physical, social and cognitive changes(Dawn,1994).Hence it is vital that the adolescent's needs to be addressed to direct them towards productivity.

More than one billion girls around the world are in their second decade of life. About 85 percent of these young people live in developing countries. Young people face enormous challenges to learn from relationships. To become active and productive adults, they need social and practical skills. Elders, parents , decision makers and the world at large have a moral and legal obligation to ensure the rights of adolescents. Help them to develop their strengths in a supportive and safe environment (WHO,2006).

Health for all by 2000 AD highlights the health care by the people and for the people. This will remain as a dream unless the people especially women are made aware of their responsibilities towards their own health. About one fifth (22-23%)of world population is adolescents girls. Their reproductive health needs are poorly understood, adolescents often have poor information about reproductive changes, sexuality and little access to reproductive health services (Park,2007).

Menarche expresses normal, regular menstruation that lasts for a few days, but anywhere from 2 to 8 days is considered normal. The average blood loss during menstruation is 35 ml with 10-80 ml is considered normal. Menstruation can be defined as a periodic physiologic discharge of blood, mucous and other cellular debris from the uterine mucosa. Many women experience menstrual problem specially adolescent girls. After the menarche the initial few periods may be irregular. Systemic symptoms of nausea, vomiting, diarrhea, fatigue, fever, uterine cramps and headache are fairly common. The uterine cramps are referred to as dysmenorrhea.

The term dysmenorrhoea is derived from the greek word dys meaning difficult/painfull abnormal, meno meaning month and rrhea meaning flow. Dysmenorrhoea is classified into two sub types namely primary and secondary dysmenorrhoea .Primary dysmenorrhoea is defined as menstrual pain without pelvic pathology. Primary dysmenorrhoea tends to occur within twelve months of menarche and it is more common. It usually starts during adolescence. Secondary dysmenorrhea is defined as menstrual pain resulting from anatomic and/or macroscopic pelvic pathology. This condition is most often observed in aged women.

Dysmenorrhoea is charecterised by cramping lower abdominal pain that may radiate to the lower back and upper thighs. It is commonly associated with nausea, headache, fatigue and diarrhoea. Often pain starts shortly before or during the menstrual period,peaks upto 24hours and subsides within 2 days (Belton. P. Delmar C. O. Connor. V 2003).

The prevalence and severity of dysmenorrhoea in parous women were significantly lower (Andersch 1982). Dysmenorrhoea is often disregarded by the affected women who consider pain to be a normal part of the menstrual cycle. Thus many women fail to report their pain to health professionals (Kamonsak,itaya,Titapant,Dittakam.2004).

The consequences of untreated dysmenorrhoea range from loss of work or college hours and to family in turn results in personal disruption. Therefore dysmenorrhoea affects not only the untreated person but also affects family, societal and national economics as well.

A wide variety of pharmacological and non-pharmacological measures are used to relieve pain during menstruation. There are several studies indicate that the pharmacological agents used may influence the health status. Relief of pain on one side and other side it causes ill effects like giddiness, head ache, nausea and vomiting etc. Therefore the health professional must explore alternative approaches to provide better care and promote healthy atmosphere. A variety of non-pharmacological measures are used for relaxation and pain relief which includes exercise, diet, herbs, rest, breathing techniques, touch, massage, music therapy, acupressure, acupuncture, application of heat and cold etc.(Gurates,2004).

Most of the women uses home remedies for relieving the dysmenorrhea. Therefore, most of the home remedies for menstrual cramps are centered around dilating the blood vessels and easing the muscles Significant home care treatment help to reduce the pain of dysmenorrhea. These measures are very effective than medication and gives pain relief benefit.

NEED FOR THE STUDY:

The health of adolescent girls influences not only their own health, but also the health of the future population. As the direct reproducers of future generation, almost a quarter of India's population comprises of girls below twenty one years. One of the major physiological changes that take place in adolescent girls is the onset of menarche, which is often associated with problems of irregular menstruation, excessive bleeding, and dysmenorrhea.

A national survey conducted among adolescent girls showed that 40% of the students frequently missed their school and college because of severe menstrual cramps. Dysmenorrhea is responsible for significant absenteeism from work and it is the most common reason for school absence among adolescents.

Numerous morbidity status among school children have been carried out by individual researchers mostly in urban and rural areas of India. Giving health education for prevention of preventable problems and development of healthy living practices among students are the objectives of school health committee.(Narayan, 2001).

Dysmenorrhoea is the leading cause of recurrent short term school absent in adolescent girls and a common problem for women of reproductive age. Worldwide primary dysmenorrhoea may affect up to 70% of women and 5-6% may have incapacitating pain. The extent of pain incapacitating from daily activity the pain is usually experienced in lower abdomen but may extend to back and thighs. In United States, it was found that 91% of surveyed high school adolescents had dysmenorrhoea. Among respondents, symptoms affected academic work in 55%,it express the burden of disease to the country(Freeman and Lawlis,2003).

Adolescents throughout the world are at a greater risk of reproductive health and are affected by its adverse consequences. With an estimated one billion adolescents live today,the world is experiencing the largest adolescent population in history. As a result adolescent reproductive health is an increasingly important component of global health. (Dawn, 1994).

Indian journal of community medicine reported prevalence of dysmenorrhoea among menstruating women as 63.75%, 57% and 61% at Delhi, Mumbai and Chennai respectively. Studies revealed that pharmacological measure will cause unwanted side effects. Several non pharmaceutical approaches to alleviate the dysmenorrhea exist.

Alternative and complementary therapy is widely accepted and available. Among that, hot application plays an important role. It helps to relieve menstrual discomfort through increased vasodilatation and subsequent decreased ischemia, thus decreasing pelvic congestion. Adolescent girls can practice these types of procedures at home or hostel set up. It is cost effective and easy to practice without assistance.

Keeping in view of the above findings in literature and experience gained, dysmenorrhea is considered as prevalent problem, which adversely affect the day to day activities of college students. The investigator's personal experience realized that many adolescent girls suffered from dysmenorrhea go into absenteeism at class and clinicals.

Hence it is important to screen college females for primary dysmenorrhoea and provide them with information regarding the disease and to prevent unnecessary suffering and interruption to work routine. After doing the extensive review of literature regarding hot application, the investigator is motivated to undertake the study on effect of hot application on dysmenorrhea among adolescent girls in nursing colleges.

STATEMENT OF THE PROBLEM

"A study to assess the effectiveness of hot application on abdominal pain in dysmenorrhoea among adolescent girls in selected college at Coimbatore".

OBJECTIVES:

- To assess the pain level among the adolescent girls with dysmenorrhoea.
- To evaluate the effectiveness of the hot application in management of abdominal pain in dysmenorrhoea among adolescent girls.
- To find the association between the level of pain with the demographic variables of dysmenorrhoea adolescent girls.

HYPOTHESIS:

H_1-There will be a significant difference in pain severity following hot application in dysmenorrhea adolescent girls.

H_2-There will be significant association between the pain level and selected demographic variable.

OPERATIONL DEFINITIONS:

- **Assess:** It refers to gathering information regarding the hot application as a remedy for dysmenorrhea.
- **Effectiveness:** It refers to the extent to which the hot application is helpful in relieving abdominal pain in dysmenorrhea.

- **Hot application:** It refers to the application of heat therapy over the lower abdomen for relieving pain during dysmenorrhoea.

- **Dysmenorrhea**: It is the cramping pain during the menstrual cycle.

- **Adolescent girls:** In this study adolescent girls within the age group 15-21 years**.**

ASSUMPTIONS:

The study assume that

1. The adolescent girls may not have adequate knowledge about home remedies for dysmenorrhea.
2. Dysmenorrhea causes discomfort.

DELIMITATIONS:

This study is limited to girls between 17-21 years studying in selected college and is suffering from dysmenorrhea.

ETHICAL CONSIDERATION:

A written permission was obtained from the authorities of the college before conducting the study. All the participants were informed about the purpose of the study and written consent was obtained .Assurance given to the subjects that the anonymity of each individual would be maintained.

PROJECTED OUTCOME:

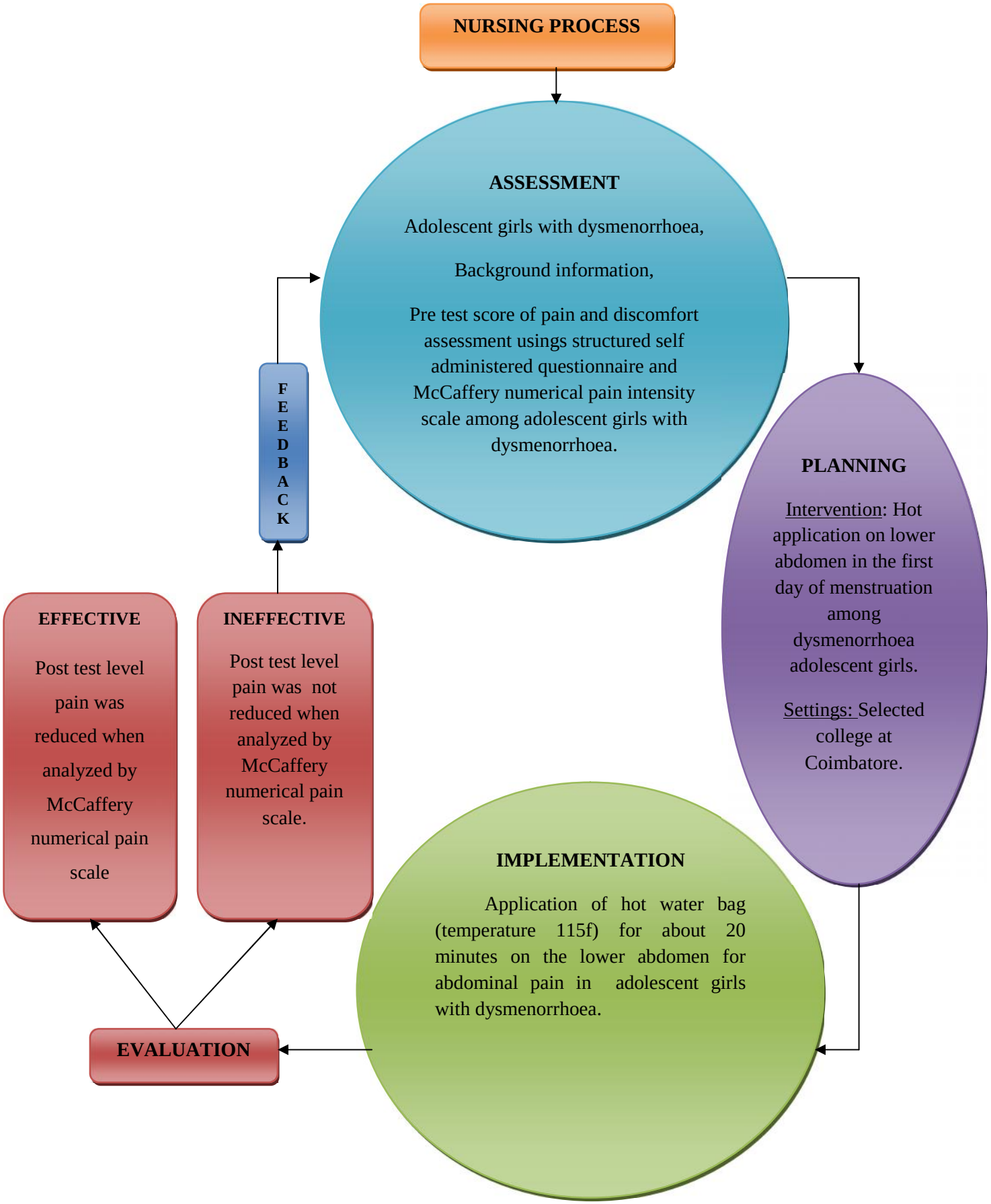
This study was conducted to evaluate the effectiveness of hot application on abdominal pain in dysmenorrhoea and to awaken the interest in non-pharmacological treatment approaches to dysmenorrhoea. Findings of this study will help to utilize hot application in the treatment of dysmenorrhoea.

CONCEPTUAL FRAMEWORK

The present study was aimed at helping adolescent girls to overcome dysmenorrhoea by adopting home remedy thus to promote their quality of life. The conceptual framework of the present study was based on nursing process model which was an organized and a systematic approach to client's problems. In the course of patient care delivery, nurses collect relevant information, make assessments and diagnosis and develop plan for nursing actions, initiate interventions and evaluate the effects of the interventions.

The process incorporates general and specific critical thinking competencies in a manner that focuses on a particular client's unique needs. The formate for nursing process is unique to the discipline of nursing and provides a common language for nurses to "think through" client's clinical problems (ANA 2003).

Fig-I:CONCEPTUAL FRAMEWORK BASED ON NURSING PROCESS MODEL



ASSESSMENT:

Gathering the subjective and objective data were the foundation of nursing assessment. It includes gathering, classifying, catogorising and analyzing the information about dysmenorrhoea among adolescent girls.

In this study, demographic variables of adolescent girls with dysmenorrhoea like age in years, religion, body built and obstetric variables such as onset of menarche, history of menstrual cycle, number of days of menstrual flow, number of pads used per day, duration of pain, management of dysmenorrhoea and family history of dysmenorrhoea were assessed through the questionnaire. The level of pain and discomfort was assessed by the structured self administered questionnaire and McCaffery numerical pain intensity scale.

PLANNING:

Assessment and analysis of client data helps in formulating nursing diagnosis, which also forms the basis for planning nursing care. Through the planning, the nurse determines what needs to be accomplished and in which the priority needs that have to be met and how it should be done. In this study, planning regarding hot application over lower abdomen for dysmenorrhoea was done in order to help adolescent girls to get pain relieved hence develop positive attitude towards the physiological changes of the body.

IMPLEMENTATION:

Implementation of the nursing intervention is the next step. In this study, implementation referred to hot application over lower abdomen for dysmenorrhoea among adolescent girls. The investigator asked the client to lie down in supine position. Hot water bag was wrapped in a towel and placed over the lower abdomen. Advised the client to retain the hot water bag in the same position for about 20 minutes. Meanwhile

educate the client how to apply hot water bag if further pain occurs. Caution the subjects to avoid injury related to hot water.

EVALUATION:

The last step of the nursing process involves the evaluation of degree to which the goals and objectives were met. In this study, evaluation through the post test to analyze the effectiveness of hot application on level of pain reduction due to dysmenorrhoea through the structured self administered questionnaire and McCaffery numerical pain intensity scale.

CHAPTER- II

REVIEW OF LITERATURE

CHAPTER: II

REVIEW OF LITERATURE

Review of literature provides the readers with a background for understanding current knowledge on a topic and illuminates the significance of the new study.In the present study,the investigator has grouped the review of literature under the following sections.

Part I : Literature related to dysmenorrhoea among adolescent girls,its causes,incidence and diagnosis of dysmenorrhoea.

Part II : Literature related to non-pharmacological therapy.

Part III: Literature related to the effect of hot application on pain.

Part I :Literature related to dysmenorrhoea among adolescent girls.

Wong L.P-(2011) conducted a study aimed to determine the prevalence of dysmenorrhoea, its impact and treatment seeking behavior of rural adolescent girls in Malaysia. Multivariate analysis showed that being in upper secondary level was the strongest predictor for poor concentration, absenteeism & poor school grade due to dysmenorrhoea. Inspite of high prevelance & enormous impact on their lives,76.1% believed that dysmenorrhoea is a normal part of the female menstrual cycle & only 14.8% sought medical treatment. The majority of adolescence obtained information from their mothers(62.3%) & peers (52.9%). The findings imply the need for educating adolescent girls on effective management of dysmenorrhoea.Study concluded that education should be extended to parents & school peer leaders to address the reproductive health needs of adolescents.

Ogunfowokan .A.A,Babatunde O.A (2010) conducted a descriptive study among adolescence with dysmenorrhoea (N=150) in Ile-Ife, Nigeria. The aims of the study were to determine their knowledge on menstruation & primary dysmenorrhoea, asses the severity of pain they experienced during an episode of a primay dysmenorrhoea & determine the management strategies they adopted.Finding revealed that adolescents had a knowledge deficit regarding menstruation & dysmenorrhoea. School nurses are able to assist adolescent & their mother in proper management of primary dysmenorrhoea.

Agarwal A.K,Agarwal A.(2010) conducted a study on the prevalence of dysmenorrhoea in high school girls of Gwalior. It was found that most of them (79.67%) suffered from dysmenorrhea,37.96%,suffered regularly from severe dysmenorrhea .The three most common symptoms present were lethargy and tiredness(first),depression (second) and inability to concentrate in work(third),whereas the ranking of these symptoms,on the day after the stoppage of menstruation showed depression as the first common symptoms.

Patil,(2009) conducted a study on adolescents problems. it revealed that 69.3% adolescents girls were under weight, 41.9% study subjects were anemic.The mean age of the menarche was found to be 13.7 yrs as for as problem related to menstrual cycle, dysmenorrhoea(44.%2) was the commonest problem. It was found that irritation 21.7%,irregular menstruation, 16.9% Malaise 9.5%, headache 14.2%,chest pain 8.2% abdominal bloating 20.35,constipation 11.3%,tightness in chest 10.6% & white discharge 38.3%.

Avasarala A.K,et.al (2008) conducted a comparative cross-sectional study among adolescent school girls (101 in urban areas and 79 in rural areas) in the district of karimnagar.Girls in rural areas resort to physical rest and other natural methods to obtain relief while the girls in urban areas are mainly depended on

medication.Investigator concluded that Dysmenorrhoea could be managed effectively by natural methods without resorting to medicines ,provided one is psychologically prepared to face it without anxiety.

Rostami (2007) performed a study on dysmenorrhoea among high school girls in Iran . The results indicated that 85 respondents (14.4% participants) suffered from dysmenorrhoea which disturbed their daily activities & was not improved by the use of analgesics . The results of the study also indicated that there was a significant correlation between dysmenorrhoea and the duration of menstrual flow. Further more, early menarche was related to an increase in the severity of dysmenorrhoea .

Bieniaz et.al.,(2006) conducted retrospective study in Italy to assess the causes of menstrual disorder in adolescent girls.The study concluded that, menstruation cycles irregularity in the first year after menarche may be a symptom of pathology demanding diagnosis and treatment.

Vincza.G,et.al; (2005) conducted a study on the prevalence of dysmenorrhoea among high school adolescent students in Easteen-Hungary.The overall prevalence of dysmenorrhoea was 79.2%.Altogether 67% described their pain and cramp as severe, 61.2% of the girls used some kind of medical counselling because of their complaints .Investigator insisted that it is important to screen adolescent girls for dysmenorrhoea and provide them with information on dysmenorrhoea and possible treatment options.

Okazaki & yamamota's (2008) study revealed that dysmenorrhoea appears to be caused by excess production of endometrial leukotrine & prostaglandin f_2 alpha(PGF_2alpha), excessive levels of endometrial PGF_2 alpha have been detected in women with primary dysmenorrhoea. These compounds can cause dysrythmic uterine contractions hyper contractility and increased uterine muscle tone leading to uterine ischemia it also can account for nausea & stimulation of gastro intestinal tract.

Chung F.F,et.al.,(2005) conducted a study on the association between menstrual function and life style/working condition among nurses in Taiwan.Investigator suggested that menstrual function and life style/working condition influence dysmenorrhoea such as family history of dysmenorrhoea, regularity of menstrual cycle, age , marital status and perceived life satisfaction, were significant in dysmenorrhoea.

Weissman A.m.et.al.,(2004) conducted a study on causes of primary dysmenorrhoea.Investigator stated that the causes of primary dysmenorrhoea is common for most of the women, throughout the menstruating years.Dysmenorrhoea if severe it cause absence from work,although improvement and worsening are equally likely for all women, improvement is more likely in women who bear children.

Balbi C.et.al.,(2000) conducted a study on influence of menstrual factors and habits on menstrual pain in adolescent age.Primary dysmenorrhoea is common in young women.The risk factors for this pathology are early dysmenorrhoea, long and heavy menstrual flow, and lower consumption of fish, eggs and fruits.The authors postulated that less intake of omega-3 fatty acids, calcium and magnesium predisposed to increased myometrial contraction, vasoconstriction and muscular spasm due to neuromuscular excitability.Investigator suggested that supplementation with omega-3 fatty acids is an effective and safe way to diminish menstrual discomfort.

Eryilmaz.G(2009) conducted a study on dysmenorrhoea. Descriptive research design was used. Investigator concluded that dysmenorrhoea was experienced by 81.7% of women, it mostly occurred after menarche(65.6%).Pain was mostly initiated a day before(35.8%) or at the beginning of menstrual flow(45.8%) and lasted for 1-3 days.

Dawood M.Y.(2006) conducted a study on primary dysmenorrhoea, investigator explained about the advances in pathogenesis and management and stated that primary dysmenorrhoea is painful and menstrual cramps without any evident of pathology occurs in among 50% of menstruating adolescents.Investigator remarked that current understanding implicates an excessive or imbalanced amount of prostanoids and possibly eicosanoids released from the endometrium during menstruation leads to dysmenorrhoea.

Andrew (2009) described that the diagnosis of dysmenorrhoea is based upon a women's medical history & physical examinations. During physical examination, the health care provider will observe and feel the size & shape of vagina, cervix ,uterus & ovaries. An internal pelvic examination may not be necessary in girls who are not sexually active. Investigator recommended that if medical history and physical examination show no suggestion of disease, further evaluation with laboratory and imaging tests are not necessary.

Amita singh (2008) narrated that dysmenorrhoea is the most common gynecologic complaints.The affected women experience, sharp, intermittent spasm of pain usually concentrated in the supra pubic area. Pain may radiate to the back of the legs or the lower back. Systemic symptoms of nausea,vomiting,diarrhea,fatigue,mild fever & headache or light headedness are fairly common. Pain usually develop with in hours of the start of the menstruation and peaks as the flow becomes heaviest during the first day or two of the cycle.

UgarrizaD.N.et.al.,(2006) conducted a study on premenstrual syndrome, diagnosis and intervention. Premenstrual syndrome (pms) is a recurrent disorder that occurs in the luteal phase of the menstrual cycle. Diagnostic issues include confusion over exact signs & symptoms differential diagnosis pertinent laboratory data, careful history taking & the importance of women recording a menstrual cycle history on

a calendar. Investigator recommended that first line treatments as diet low in salt, fat, caffine, sugar, an aerobic exercise regimen & stress reduction via changes in lifestyle help to minimize the pain.

Wolf L.L.ef.at,(2005) conducted a study on dysmenorrhoea. Investigator found out that dysmenorrhoea is a common complaint & causes considerable disruption in a women's life and suggested that accurate diagnosis of primary & secondary causes with appropriate therapeutic intervention leads to significant improvements in quality of life.

Part II :Literature related to non-pharmacological therapy for dysmenorrhoea:

Blakey,et.al.(2008) stated that exercise is effective on preventing and treating dysmenorrhoea symptoms evidenced from observational studies. Several observational studies reported that physical activity and exercise were associated with reduced prevalence of dysmenorrhoea. Evidence from controlled trials suggested that exercise could reduce primary dysmenorrhoea and associated symptoms.

Reinhold (2008) conducted double blind, placebo- controlled trial among women with dysmemorrhoea & a traditional chinese medicine for 2 menstrual cycles, with 2 cycles baseline assessment and 2 months follow up with Chinese herbal formula. Pain severity was assessed by visual analogue scale compared with placebo treatment, herbal formula significantly reduced pain during two months & two follow up months, no serious adverse effect were reported.

Jetlestad et.al (2007) conducted a study in Norway regarding reduction of pain by transcutaneous electrical nerve stimulation (TENS).Investigator suggested that TENS is an established method for pain relief in dysmenorrhoea, without the use of medication and showed that there was statistically significant difference in mean score from 6.73 to 3.18.

Proctor and smith (2007) conducted a prospective randomized and controlled study among 34 subjects with primary dysmenorrhoea.15 subjects received interferential current application for 20 minutes and 17 subjects received transcutaneous electrical nerve stimulation for 20 minutes when they were experiencing dysmenorrhoea.Both transcutaneous electrical nerve stimulation and interferential current in both treatment found to be effective in dysmenorrhoea and free from the potential adverse effects.

O Connell K.et.al, (2006) conducted a study in United States to assess both the non-pharmacological and pharmacological treatment used by adolescents suffering with dysmenorrhoea. Study showed that adolescents with moderate and severe dysmenorrhoea reported high morbidity, girls used numerous non-pharmacologic remedies as well as medications for pain but infrequently approached formal medical care.

Part III :Literature related to the effect of hot application on pain.

Hong Y.R (2011)conducted a study on effects of heat therapy using a far infrared rays heating element for dysmenorrhoea in high school girls.The experimental group had significantly lower mean scores for menstrual pain in dysmenorrhoea than those in the control group.These findings showed that thermotherapy was effective for reduction of menstrual pain, therefore investigator suggested that, this therapy could be used as a nursing interventions for students with dysmenorrhoea.

Temmuz (2010), conducted an experimental study on the effectiveness of heat-and steam- generating (HSG)sheets for the relief of symptoms of dysmenorrhea among young women in Japan. The sample for the study was 34 female university students. Heat-and steam-generating sheets generate moist heat and kept attached to the lower abdominal or lumbar region once a day on 1st, 2nd, 3rd day of menstruation consecutively. The study conclude that 63% of subjects felt relief from abdominal pain .

Akin MD (2010), conducted a study by applying heat-and steam-generating (HSG) sheets on the abdomen or lumbar region, 57 (63%) of subjects felt relief of abdominal pains, and 54 (61%) of subjects felt relief from lumbago on the first and second days of menstruation, respectively. Applying HSG sheets to the abdomen was as effective as that to the lumbar region except for cases of lumbago on the second day of menstruation. Applying HSG sheets two days prior to the onset of menstruation was more effective in relieving lumbar dullness than those just before its onset.

French.SD, et.al (2006), conducted a study to assess the effects of superficial heat and cold therapy for pain in dysmenorrhoea adults.when compared with acute oral placebo, heat wrap therapy significantly reduced pain.One trial of 90 participants with acute pain found that a heated blanket significantly decreased pain immediately.One trial of 100 participants with a mix of acute and sub acute pain examined the additional effects of adding excercise to heat wrap and found that it reduced pain .The study concluded that there was a significant reduction of pain following therapy.

By analysing the above review of literature the investigator found that hot application is one of the best method among non-pharmacological management for dysmenorrhoea in relieving abdominal pain.Hence the investigator attempted to do a study to assess the effectiveness of hot application for abdominal pain in dysmenorrhoea among adolescent girls in a selected college at Coimbatore.

CHAPTER-III

RESEARCH METHDOLOGY

CHAPTER-III

RESEARCH METHDOLOGY

This chapter provides a brief description of the method adopted by the investigator in the study. It includes the research approach, research design, the setting, sample and sampling technique. It further deals with the development of the tool and procedure for data collection and plan for data analysis.

RESEARCH APPROACH:

The research approach used in this study was an evaluative approach used to assess the effectiveness of hot application for abdominal pain in dysmenorrhoea among adolescent girls.

RESEARCH DESIGN:

The research design used for the study was one group pre test, post test design which comes under the quasi experimental design.

Group	Pre test	Intervention	Post test
Experiment	X	O	Y

X = Assessment of abdominal pain before intervention.

O = Intervention of hot application.

Y = Assessment of abdominal pain after intervention.

Y-X = Effectiveness of intervention.

RESEARCH SETTING:

The study was conducted with students of a private college at Coimbatore, considering the proximity, availability of samples and co operation from the management.

POPULATION:

Adolescent girls who fulfill the inclusive criteria.

SAMPLE:

Sample size: The sample constitute 50 adolescent girls.

Sampling technique: Purposive sampling technique.

CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria:

- Students who are having dysmenorrhoea.
- Students who are willing to take part in the study.

Exclusion criteria:

- Students who have previous history of gynecological problems such as PCOD, Dysfunctional uterine bleeding, Fibromyomas of the uterus etc.

DESCRIPTION OF THE TOOL:

Based on the objectives a questionnaire was prepared with two sections.

Section – A Demographic variables.

Section – B McCaffery numerical pain intensity scale.

Section – A: It consisted of demographic data which includes age, religion, body built, onset of menarche, history of menstrual cycle, number of days of menstrual flow ,number of pads used per day, duration of pain, management of dysmenorrhoea and family history of dysmenorrhoea.

Section – B: McCaffery numerical pain intensity scale to assess the pain level of dysmenorrhoea in adolescent girls.

SCORING KEY:

0 → No pain

1-3 → Mild

4-6 → Moderate

7-10 → Severe

CONTENT VALIDITY OF THE TOOL:

Content validity was established by submitting the tool to 7 experts including 5 nursing experts, 2 medical experts who validated the tool. Based on their suggestions and comments the tool was finalized.

RELIABILITY OF THE TOOL:

The tool I was demographic variables. Pain assessment was done with McCaffery numerical pain scale which was a standardized scales.

PILOT STUDY:

The refined tool was used for pilot study to test the feasibility and practicability. Formal approval was obtained from the head of the departments of institutions and pilot study was conducted among 10% of the total sample (5) in the manner in which final study would be done. The pilot study revealed that the study was

feasible. Data were analyzed to find out suitability of statistics. These subjects were excluded from the main study.

METHOD OF DATA COLLECTION:

Formal permission was obtained from the concerned authorities. The period of data collection was one month. Informed consent was obtained from each subject and after giving assurance of confidentiality, data were collected by the investigator.

PLAN FOR DATA ANALYSIS:

Data were analyzed using descriptive and inferential statistics.

Descriptive statistics:

Frequency and percentage methods applied to describe the demographic variables

Inferential statistics:

Mean and standard deviation applied to assess the pain level.

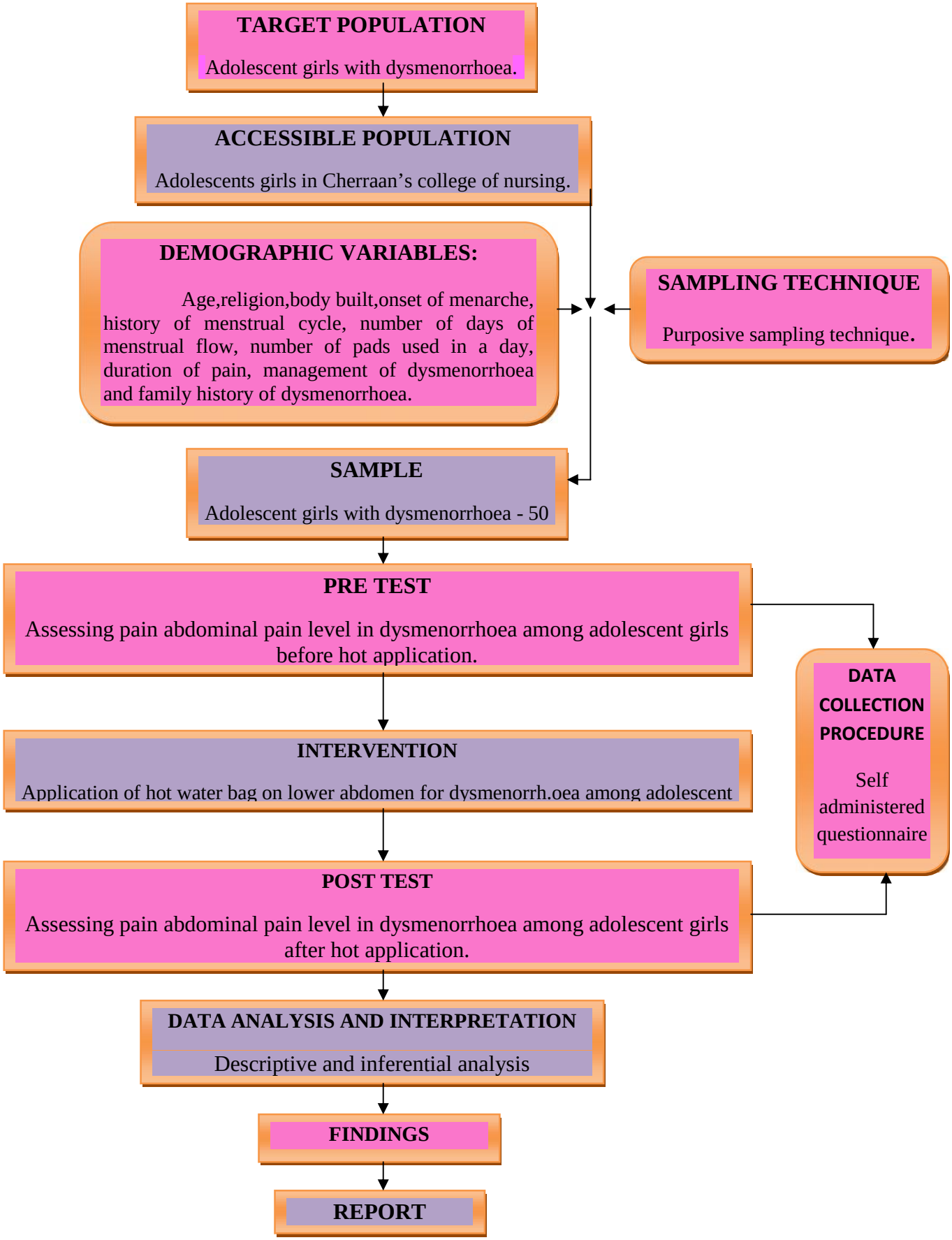
Chi square test-To analyze the association between demographic data with pain level.

'Z' test – To assess the effectiveness of hot application.

ETHICAL CONSIDERATION:

The study was conducted after the approval of the dissertation committee. Samples were informed about the nature and purpose of the study. Consent was obtained before the collection of samples. Assurance was given to the study samples that the anonymity would be maintained strictly.

FIG-2: SCHEMATIC REPRESENTATION OF DATA COLLECTION



CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of sample, analysis and interpretation of the collected data from the 50 adolescent girls who suffered from dysmenorrhoea. The data obtained is classified, grouped and analyzed statistically based upon the objectives of the study.

The study findings are presented as:

Section-I

Table-1: Frequency and percentage distribution of demographic variables in adolescent girls with dysmenorrhoea.

Section-II

Table-2: Frequency and percentage distribution of abdominal pain level in pre test and post test score in adolescent girls with dysmenorrhoea.

Section-III

Table-3: Mean, standard deviation and 'Z' value of pain level score during pretest and post test.

Section-IV

Table-4: Frequency, percentage and chi square distribution of pain level in dysmenorrhoea among adolescent girls.

SECTION-I

Distribution of demographic profiles of dysmenorrhoea adolescent girls.

Table-I : Frequency and percentage distribution of demographic variables in adolescent girls with dysmenorrhoea .

S. NO.	DEMOGRAPHIC VARIABLES	NUMBER	PERCENTAGE
1.	Age in years		
	(a) 17years	2	4 %
	(b) 18years	18	36 %
	(c) 19years	11	22 %
	(d) 20years	13	26 %
	(e) 21years	6	12 %
2.	Religion		
	(a) Christian	15	30 %
	(b) Hindu	28	56 %
	(c) Muslim	7	14 %
3.	Body built		
	(a) Thin	23	46 %
	(b) Moderate	24	48 %
	(c) Obese	3	6 %

4.	Onset of menarche		
	(a) 12years	18	36 %
	(b) 13years	18	36 %
	(c) 14years	8	16 %
	(d) 15years	6	12 %
5.	History of menstrual cycle		
	(a) Regular	45	90 %
	(b) Irregular	5	10 %
6.	Number of days of menstrual flow		
	(a) 1 to 3 days	10	20 %
	(b) 3 to 5 days	29	58 %
	(c) above 5 days	11	22 %
7.	Number of pads used in a day		
	(a) 2	11	22 %
	(b) 3	32	64 %
	(c) 4 and above	7	14 %
8.	Duration of pain		
	(a) First 24 hours of menstruation	38	76 %
	(b) 24hours to 48 hours of menstruation	9	18 %
	(c) More than 48 hours	3	6 %

9.	Management of dysmenorrhoea		
	(a) Pharmacological management	5	10 %
	(b) Non-pharmacological management	3	6 %
	(c) None	42	84 %
10.	Family history of dysmenorrhoea		
	(a) yes	13	26 %
	(b) No	37	54 %

Table I reveals about the frequency and the percentage distribution of adolescent girls with dysmenorrhoea according to the demographic variables.

1. With regard to the age, 2 (4%) were in 17yrs,18 (36%) were in 18yrs,11 (22%) were in 19yrs,13 (26%) were in 20yrs and 6 (12%) were in 21yrs.

2. Regarding the religion, 15 (30%) belongs to Christian, 28 (56%) belongs to Hindu and 7 (14%) belongs to Muslim.

3. With regard to body built , 23 (46%) had thin,24 (48%) had moderate and 3(6%) had obese body built.

4. Regarding the onset of menarche, 18 (36%) were in 12yrs, 18(36%) were in 13yrs, 8(16%) were in 14yrs and 6(12%) were in above15yrs.

5. With regard to history of menstrual cycle, 45(90%) falls under regular and 5(10%) falls under irregular.

6. Regarding the number of days of menstrual flow, 10(20%) had 1-3days ,29(58%) had 3-5 days and 11(22%) had above 5 days bleeding.

7. With regard to the number of pads used per day, 11(22%) used 2 pads per day,32(64%) used 3 pads per day and 7(14%) used above 4 pads per day.

8. Regarding the duration of pain, 38(76%) had first 24 hours of pain,9(18%) had 24hours to 48 hours of pain and 3(6%) had >48 hours of pain.

9. With regard to management, 5(10%) underwent pharmacological management,3(6%) underwent non-pharmacological management and 42(84%) underwent none.

10. Regarding family history of dysmenorrhoea, 13(26%) had family history of dysmenorrhoea and 37(54%)had no family history of dysmenorrhoea.

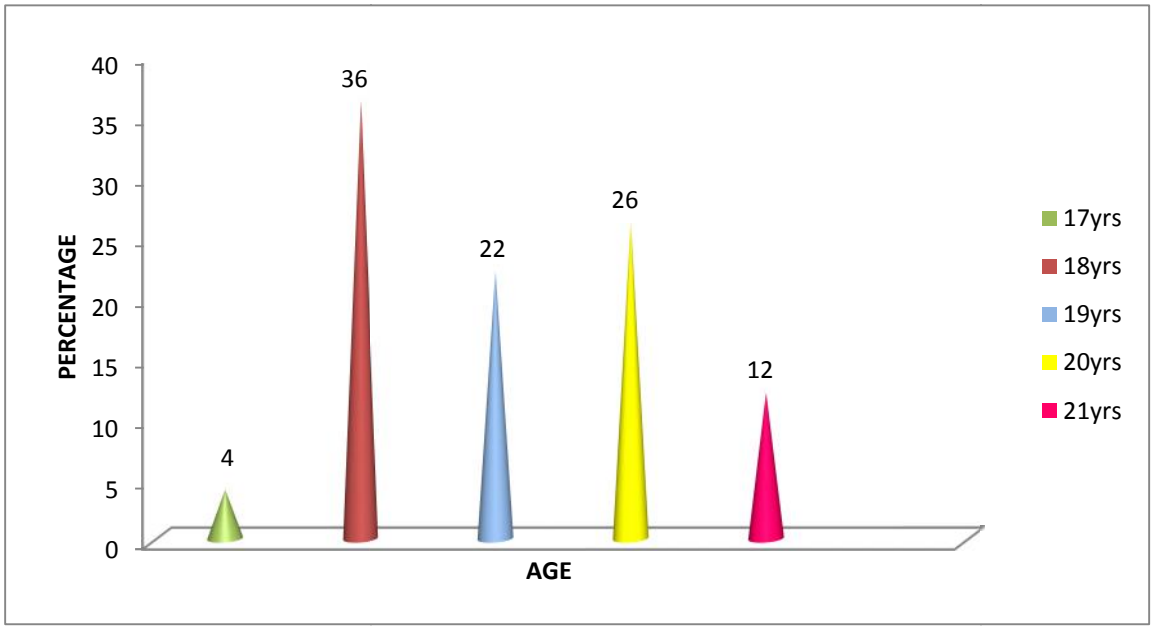


Fig-3.1:Percentage distribution of adolescent girls with dysmenorrhoea according to age.

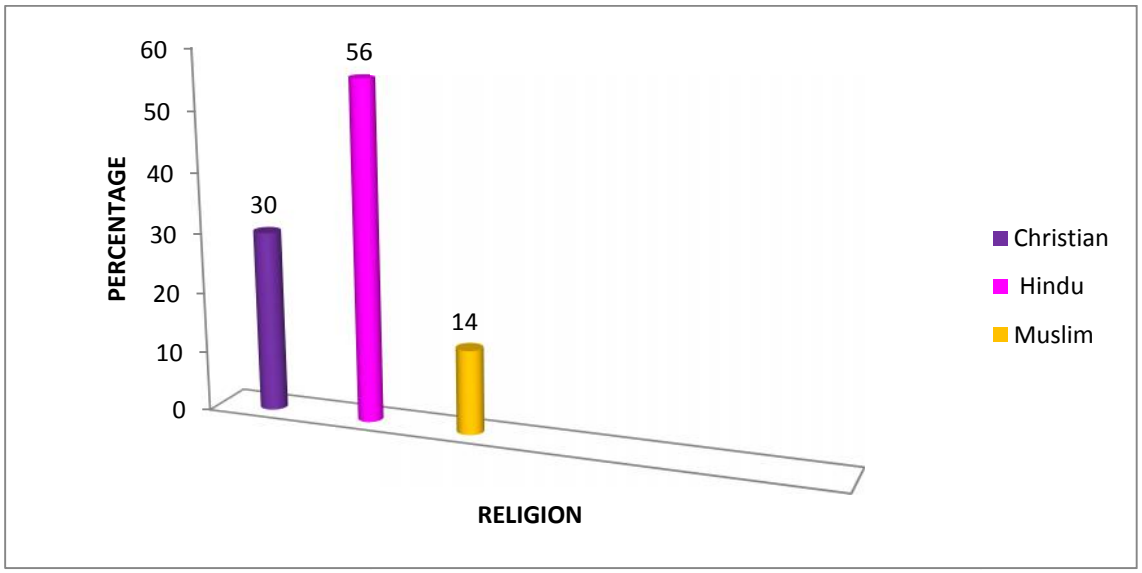


Fig-3.2:Percentage distribution of adolescent girls with dysmenorrhoea according to religion.

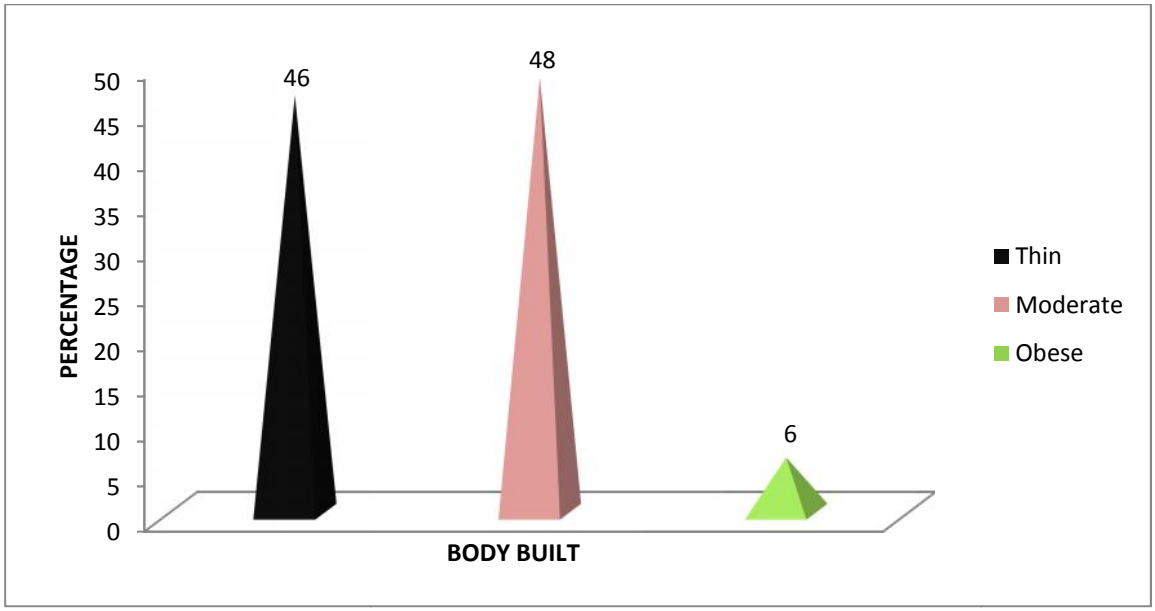


Fig-3.3:Percentage distribution of adolescent girls with dysmenorrhoea according to body built.

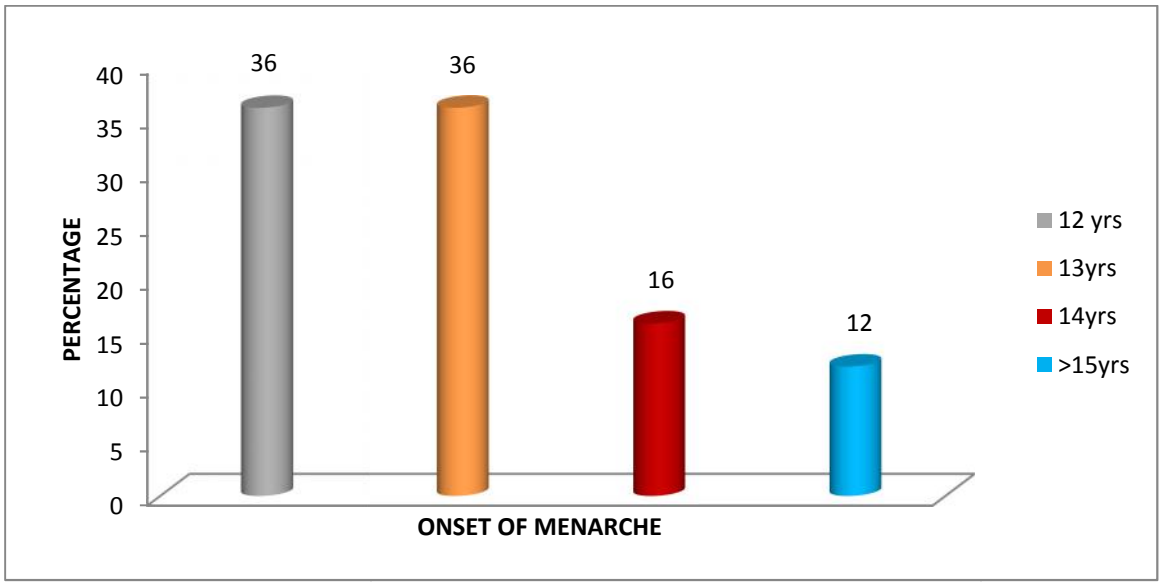


Fig-3.4:Percentage distribution of adolescent girls with dysmenorrhoea according to onset of menarche.

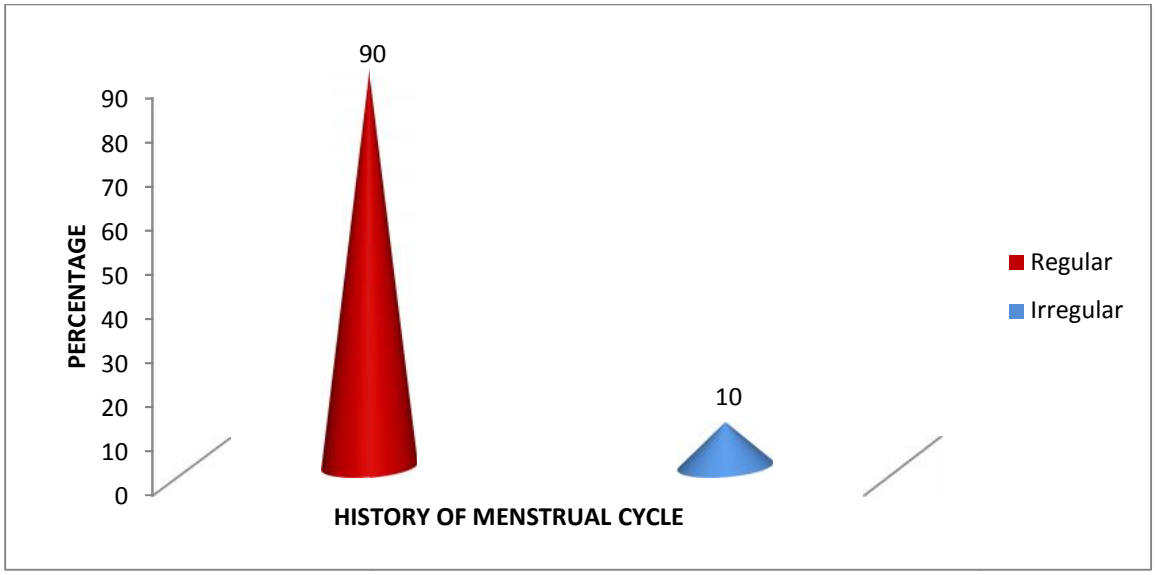


Fig-3.5:Percentage distribution of adolescent girls with dysmenorrhoea according to history of menstrual cycle.

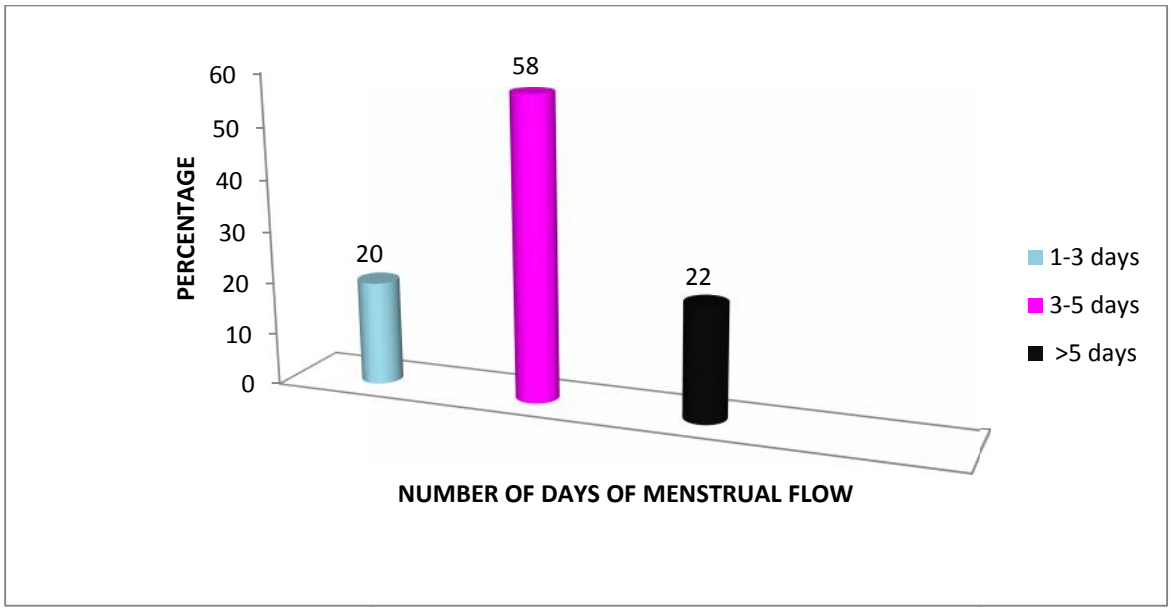


Fig-3.6:Percentage distribution of adolescent girls with dysmenorrhoea according to number of days of menstrual flow.

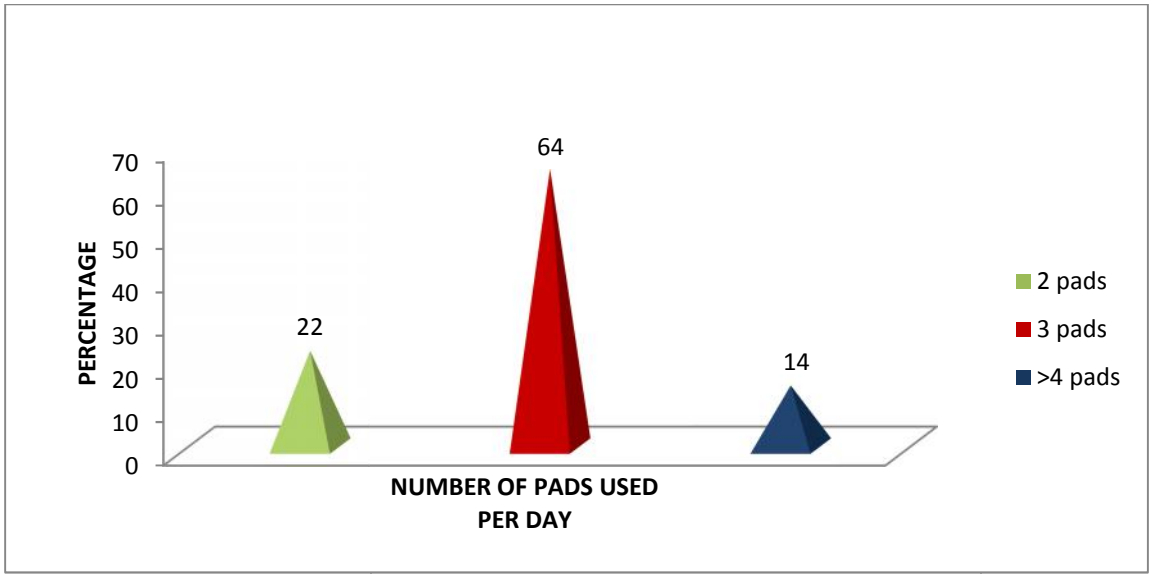


Fig-3.7:Percentage distribution of adolescent girls with dysmenorrhoea according to number of pads used per day.

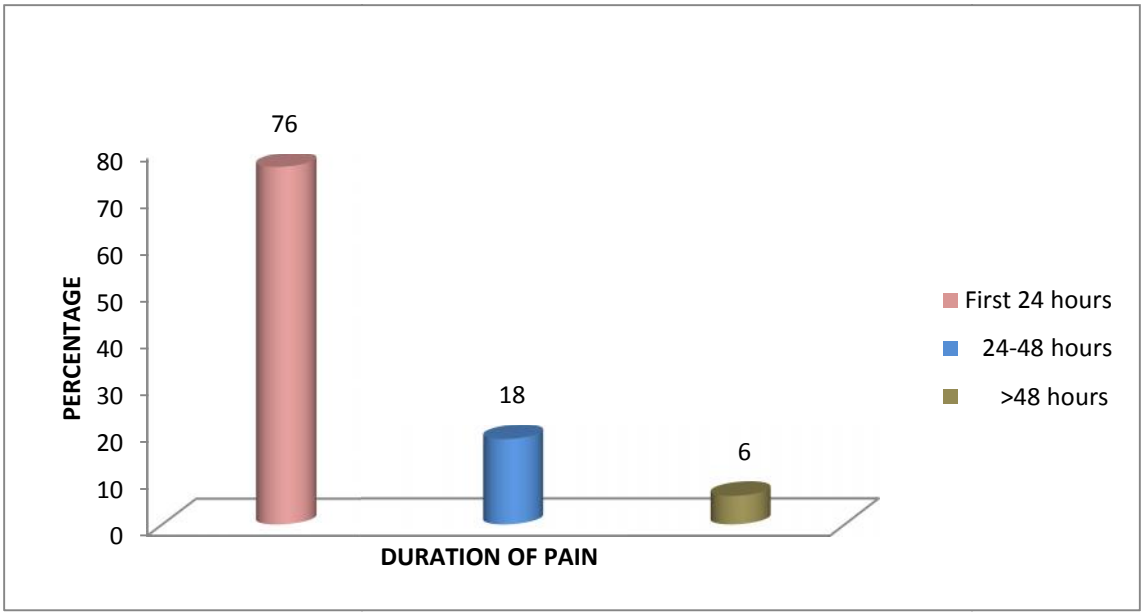


Fig-3.8:Percentage distribution of adolescent girls with dysmenorrhoea according to duration of pain.

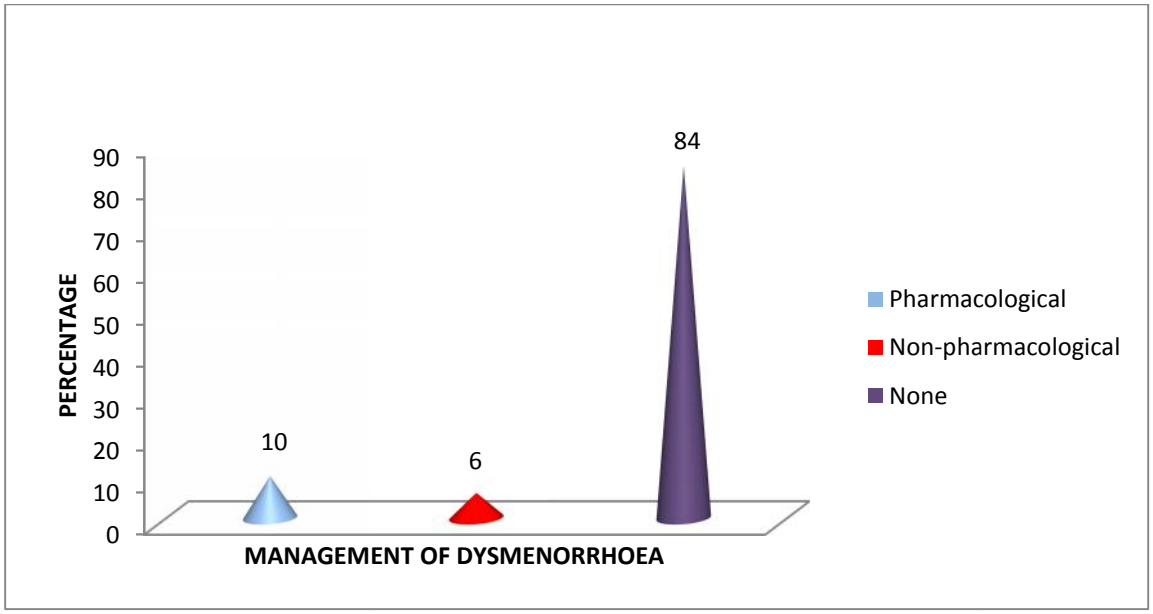


Fig-3.9: Percentage distribution of adolescent girls with dysmenorrhoea according to the type of dysmenorrhoea management .

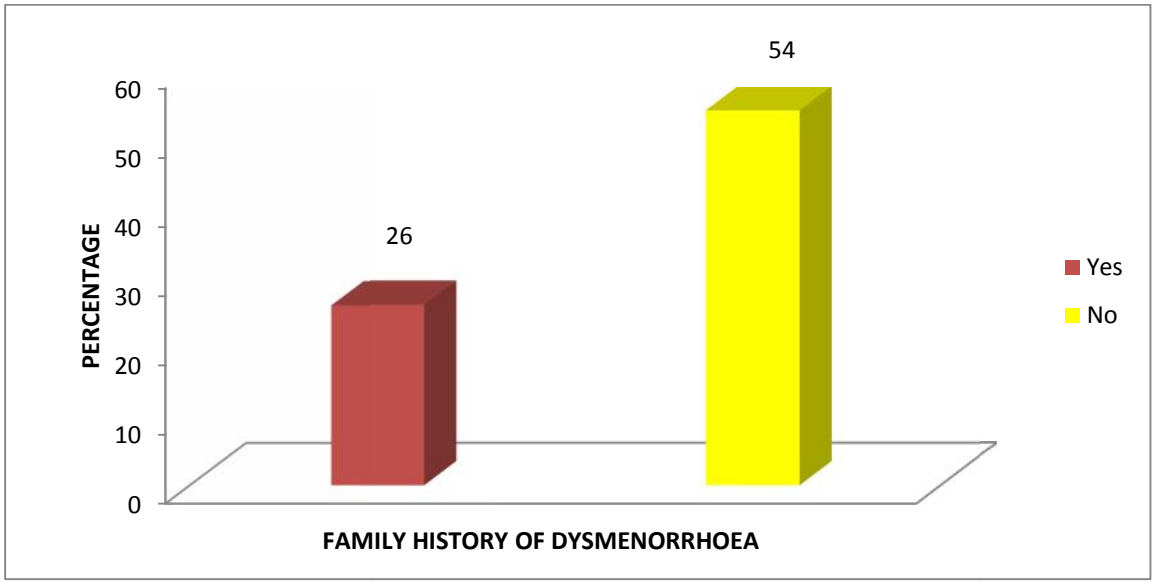


Fig-3.10:Percentage distribution of adolescent girls with dysmenorrhoea according to family history of dysmenorrhoea.

Section-II

Distribution of pretest post test score of dysmenorrhoea in adolescent girls regarding the abdominal pain level.

Table-2: Frequency and percentage distribution of abdominal pain level in pre test and post test score in adolescent girls with dysmenorrhoea.

S.NO	LEVEL OF PAIN	PRE TEST		POST TEST	
		N	%	N	%
1.	(0) No pain	_	_	11	22
2.	(1-3) Mild	13	26	24	48
3.	(4-6) Moderate	15	30	14	28
4.	(7-10) Severe	22	44	1	2

Table -2 represents the frequency and percentage distribution of dysmenorrhoea among adolescent girls according to the pain level in the pre test and post test. This shows that out of 50 adolescent girls 13 had mild pain, 15 had moderate pain and 22 had severe pain in pre test.

During post test out of 50 adolescent girls 11 had no pain, 24 had mild pain,14 had moderate pain and 1 had severe pain.

It is inferred that the majority adolescent girls had severe pain during their pre test and around half of adolescent girls had mild pain during their post test.

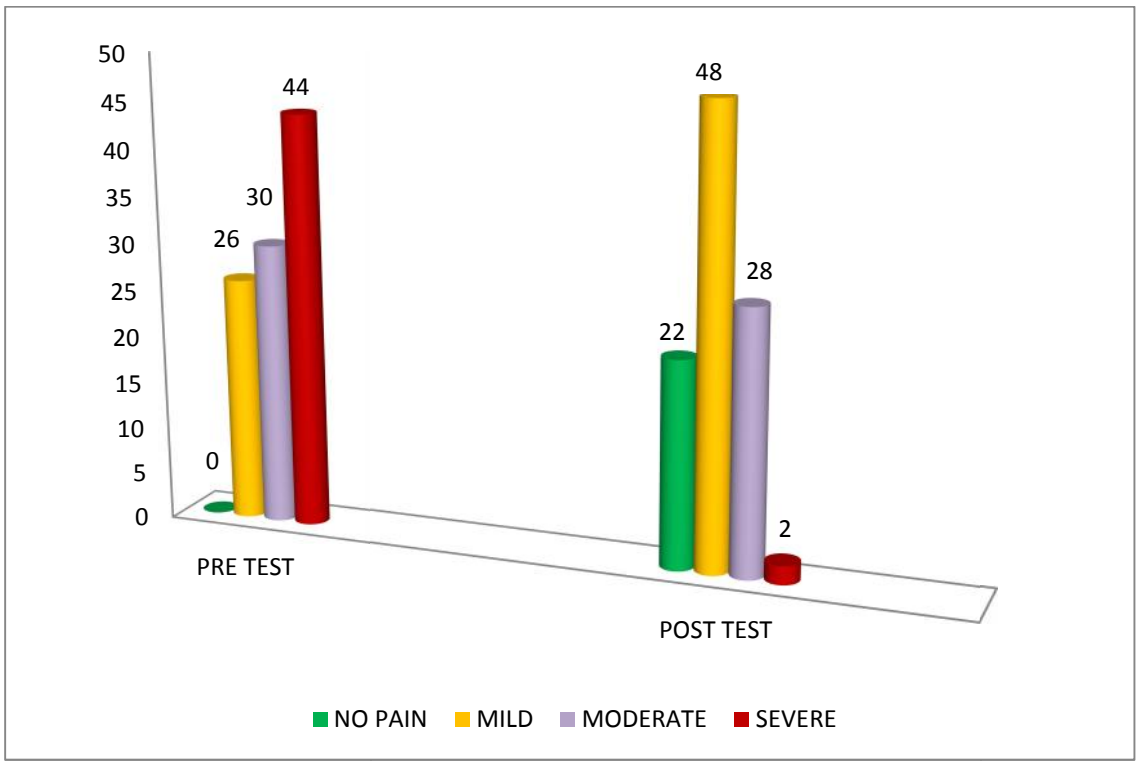


Fig-3.11: Percentage distribution of abdominal pain level in pre test and post test score for dysmenorrhoea among adolescent girls.

SECTION III

To find out the effectiveness of hot application for abdominal pain in dysmenorrhoea among adolescent girls.

Table 3:Mean, standard deviation and 'Z' value of pain level score during pretest and post test.

S.NO	VARIABLE	MEAN	S.D	'Z'VALUE
1.	Pre test	5.9	2.49	8.245
2.	Post test	2.3	1.88	

Table 3 shows the mean, S.D and 'Z' value of pain level score during pretest and post test. The above data reveals that the post test mean pain level score 2.3 was lower than the pre test mean pain level score 5.9.The obtained 'Z' value 8.245 was significant at 0.05 level. Hence the stated hypothesis was accepted.

It is inferred that the hot application on lower abdomen for dysmenorrhoea adolescent girls was effective which will help the adolescent girls in managing with dysmenorrhoea.

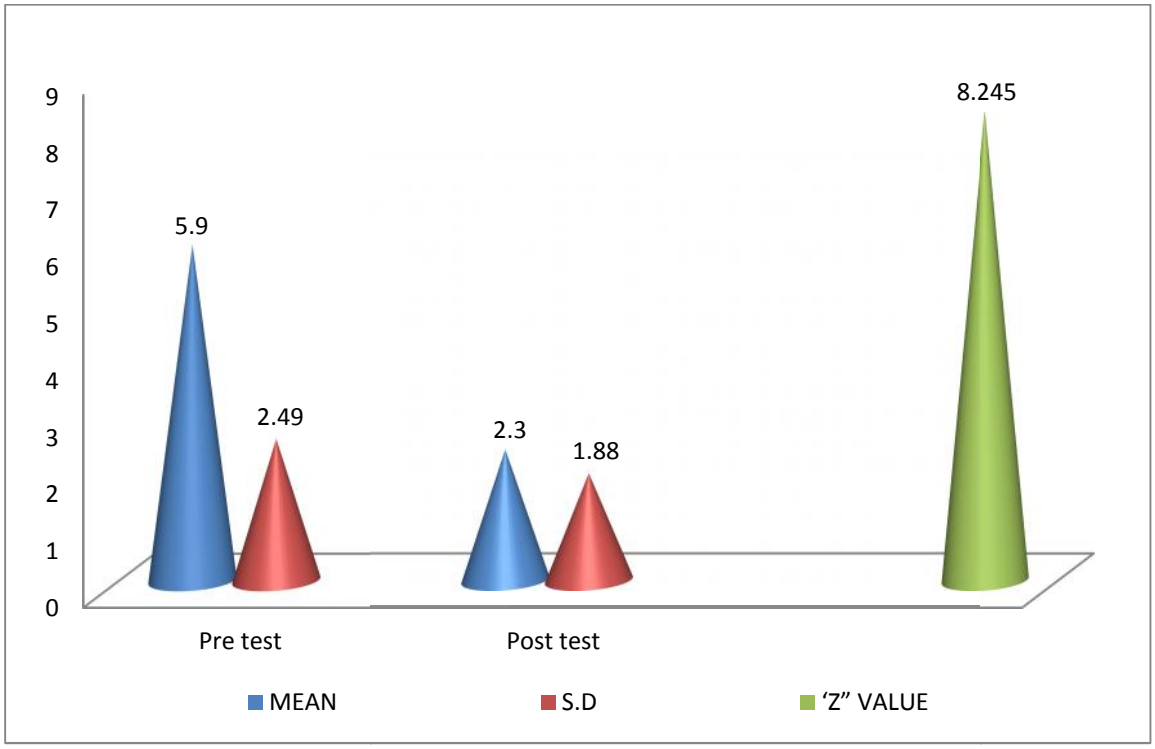


Fig-3.12: Mean, standard deviation and 'Z' value of pain level score during pretest and post test.

SECTION VI:

To find out the association between abdominal pain level with demographic variables.

Table 4:Frequency, percentage and chi square distribution of pain level in dysmenorrhoea among adolescent girls.

S. no.	Demographic variables	Level of pain				Chi square
		N0 pain	Mild	Moderate	Severe	
1.	Age in years					
	(a) 17years	0	1	1	0	
	(b) 18years	3	9	6	0	
	(c)19years	5	3	2	1	9.89
	(d) 20years	2	8	3	0	(S)
	(e) 21years	1	3	2	0	
2.	Religion					
	(a) Christian	3	7	5	0	1.97
	(b) Hindu	6	13	8	1	(NS)
	© Muslim	2	4	1	0	
3.	Body built					
	(a) Thin	4	14	5	0	5.60
	(b) Moderate	6	8	9	1	(NS)
	(c) Obese	1	2	0	0	

4.	Onset of menarche					
	(a) 12years	4	9	5	0	
	(b) 13years	6	6	6	0	12.75
	(c) 14years	0	6	2	0	(S)
	(d) 15years	1	3	1	1	

5.	History of menstrual cycle					
	(a) Regular	9	21	14	1	2.67
	(b) Irregular	2	3	0	0	(NS)
6.	Number of days of menstrual flow					
	(a) 1 to 3 days	4	4	2	0	7.67
	(b) 3 to 5 days	5	13	10	0	(S)
	(c) above 5 days	1	7	2	1	
7.	Number of pads used in a day					
	(a) 2	4	5	1	1	
	(b) 3	6	17	9	0	9.19
	(c) 4 and above	1	2	4	0	(S)

8.	Duration of pain					
	(a) First 24 hours of menstruation	9	16	12	1	4.76
	(b) 24hours to 48 hours of menstruation	1	7	1	0	(NS)
	(c) More than 48 hours	1	1	1	0	
9.	Management of dysmenorrhoea					
	(a) Pharmacological management	2	2	1	0	3.59
	(b) Non-pharmacological management	0	1	2	0	(NS)
	(c) None	9	21	11	1	
10.	Family history of dysmenorrhoea					
	(a) yes	1	10	1	1	10.13
	(b) No	10	1	12	0	(S)

Table 4 reveals the frequency, percentage and Chi square values of pain level among dysmenorrhoea among adolescent girls.

To find out the association between pain with demographic variables the hypothesis was stated as follows.

H_2-There will be significant association between the pain level and selected demographic variable.

1. The association between pain level of dysmenorrhoea among adolescent girls and their age, the obtained chi square value 9.89 was significant at 0.05 level.

2. The association between pain level of dysmenorrhoea among adolescent girls and their religion, the obtained chi square value 1.97 was not significant at 0.05 level.

3. The association between pain level of dysmenorrhoea among adolescent girls and their body built, the obtained chi square value 5.60 was not significant at 0.05 level.

4. The association between pain level of dysmenorrhoea among adolescent girls and their onset of menarche, the obtained chi square value 12.76 was significant at 0.05 level.

5. The association between pain level of dysmenorrhoea among adolescent girls and their history of menstrual cycle, the obtained chi square value 2.67 was not significant at 0.05 level.

6. The association between pain level of dysmenorrhoea among adolescent girls and their number of days of menstrual flow, the obtained chi square value 7.67 was significant at 0.05 level.

7. The association between pain level of dysmenorrhoea among adolescent girls and their use of pads per day, the obtained chi square value 9.19 was significant at 0.05 level.

8. The association between pain level of dysmenorrhoea among adolescent girls and their duration of pain, the obtained chi square value 4.76 was not significant at 0.05 level.

9. The association between pain level of dysmenorrhoea among adolescent girls and their management of dysmenorrhoea, the obtained chi square value 3.59 was not significant at 0.05 level.

10. The association between pain level of dysmenorrhoea among adolescent girls and their family history of dysmenorrhoea, the obtained chi square value 10.13 was significant at 0.05 level.

CHAPTER-V

FINDINGS AND DISCUSSION

CHAPTER-V

FINDINGS AND DISCUSSION

The aim of present study was to evaluate the effectiveness of hot application for abdominal pain in dysmenorrhoea among adolescent girls in a selected college at Coimbatore. The study was conducted by using “one group pre test post test design”. The students who were suffering from dysmenorrhoea was selected as the samples for the study. The sample size was 50.The self administered questionnaire and McCaffery pain scale was used to assess the pain level during dysmenorrhoea among adolescent girls. The responses were analyzed through descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (‘z’ test and chi square).Discussion on the findings were analysed based on the objectives of the study.

The first objective of the study was to assess the pain level of dysmenorrhoea among adolescent girls The present study findings revealed that out of 50 adolescent girls 13(26%) had mild pain,15 (30%)had moderate pain and 22 (44%)had severe pain in pre test. During post test out of 50 adolescent girls 11(22%) had no pain,24(48%) had mild pain,14(28%) had moderate pain and 1 (2%)had severe pain.

The second objective of the study was to evaluate the effectiveness of the hot application in management of abdominal pain in dysmenorrhoea among adolescent girls. The study revealed that the post test mean pain level score 2.3 was lower than the pre test mean pain level score 5.9.The obtained ‘Z’ value 8.245 was significant at 0.05 level. Hence the first hypothesis was accepted.

The third objective of the study was to find the association between the post test level of pain with the demographic variables of adolescent girls with dysmenorrhoea. The association between pain level of dysmenorrhoea among adolescent girls and their age,

the obtained chi square value 9.89 was significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their religion, the obtained chi square value 1.97 was not significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their body built, the obtained chi square value 5.60 was not significant at 0.05 level.

The association between pain level of dysmenorrhoea among adolescent girls and their onset of menarche, the obtained chi square value 12.76 was significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their history of menstrual cycle, the obtained chi square value 2.67 was not significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their number of days of menstrual flow, the obtained chi square value 7.67 was significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their use of pads per day, the obtained chi square value 9.19 was significant at 0.05 level.

The association between pain level of dysmenorrhoea among adolescent girls and their duration of pain, the obtained chi square value 4.76 was not significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their management of dysmenorrhoea, the obtained chi square value 3.59 was not significant at 0.05 level. The association between pain level of dysmenorrhoea among adolescent girls and their family history of dysmenorrhoea, the obtained chi square value 10.13 was significant at 0.05 level. Hence the second hypothesis was accepted.

CHAPTER-VI

SUMMARY, CONCLUSION, IMPLICATIONS, LIMITATIONS, AND RECOMMENDATIONS

CHAPTER-VI

SUMMARY, CONCLUSION, IMPLICATIONS, LIMITATIONS,

AND RECOMMENDATIONS

This chapter deals with summary, findings, discussion, implication, limitation, conclusion and recommendation.

SUMMARY:

The primary aim of the study was to assess the effectiveness of hot application on abdominal pain in dysmenorrhoea among adolescent girls in selected college at Coimbatore".

THE OBJECTIVESOF THE STUDY WERE:

- To assess the pain level among the adolescent girls with dysmenorrhoea.

- To evaluate the effectiveness of the hot application in management of abdominal pain in dysmenorrhoea among adolescent girls.

- To find the association between the level of pain with the demographic variables of dysmenorrhoea adolescent girls.

THE STUDY EXAMINED THE FOLLOWING RESEARCH HYPOTHESIS:

H_1-There will be significant difference in pain and severity following hot application in dysmenorrhea adolescent girls.

H_2-There will be significant association between the pain level and selected demographic variable.

A review of literature helped the investigator to develop the conceptual frame work, tool and development of self administered questionnaire and McCaffery pain scale to evaluate the pain level. Literature review was done for the present study and were categorised under the following headings.

Part I : Literature related to dysmenorrhoea among adolescent girls,its causes,incidence and diagnosis of dysmenorrhoea.

Part II : Literature related to non-pharmacological therapy.

Part III:Literature related to the effect of hot application on pain.

The conceptual frame work adopted for the present study was based on the nursing process model. This model helped the investigator to assess the effectiveness of hot application for abdominal pain in dysmenorrhoea among adolescent girls in Cherraan's college of nursing at Coimbatore.

The research approach adopted for this study was evaluative in nature. The present study is a one group pre test post test design. In this study independent variable was hot application and the dependent variable was level of pain of dysmenorrhoea among adolescent girls.

The tool which was used for the study was the self administered questionnaire for demographic variable and McCaffery numerical pain scale to assess the pain level of dysmenorrhoea among adolescent girls. The content validity of the tool was established by seven experts. The tool was found feasible. Five nursing experts and two medical expert validated the tool.

After making appropriate modifications the content was finalized. The intervention was pretested with five adolescent girls with dysmenorrhoea. The average time taken for each individual is twenty minutes.

CONCLUSION:

The hot application used for abdominal pain in dysmenorrhoea among adolescent girls was effective.

IMPLICATIONS:

The result of the study proved that the hot application was effective in minimising the abdominal pain in dysmenorrhoea among adolescent girls.

The findings of the study could be discussed in four areas namely nursing practice,nursing education , nursing administration, and nursing research.

NURSING PRACTICE:

1. The findings of the study enlighten the fact that age, onset of menarche, number of days of menstrual flow, number of pads consumed per day and family history had significance in dysmenorrhoea.

2. The findings of the study would help nurses in identifying the problems of adolescent girls, planning, organizing and implementing the management for dysmenorrhoea among adolescent girls. Nurse should be well equipped with up to date knowledge of menstrual problems and various treatment options available. Nursing personnel are at the best position to impart knowledge to the people.Nurses are accountable in providing quality care.

3. Community health programmes can be conducted by community health nurses to impart knowledge to parents and adolescent girls regarding menstrual problems and its management.The health personnel can take initiative in directing the mass, about healthy practices, which can be better understood by the adolescent girls and their parents.

NURSING EDUCATION:

1. The findings could serve as a guideline for the nurse educators to plan an inservice education programme on various aspects. Classification, nature and incidence, causative factors, characters and management of dysmenorrhoea.

2. Graduate nurses can be taught to develop skills in providing special care for adolescent girls.

3. The syllabus of nursing students can be modified and more can be added regarding care of adolescent girls.The curriculum is responsible for preparing the future nurse with more emphasis on preventive and promotive health practices for adolescent girls.The result of the study insist the need for correlating the concepts in order to understand and advise on dysmenorrhoea and its management.

4. Nurse educators can teach the parents of adolescent girls regarding home care management of dysmenorrhoea.Students should take a positive step to impart health education in the community during their study period.Clinical and community posting should be fully utilized for health education. In-service education programmes and workshops have to conducted to meet the health challenges.

NURSING ADMINISTRATION:

1. Nurse administrators can inculcate the knowledge to staffs and subordinates through in-service education on management of dysmenorrhoea.

2. Nurse administrators can conduct ward rounds, nursing rounds, and teach nursing students regarding menstrual problems.

3. The findings could be utilized by the nurse administrators in updating the knowledge and identifying the problems of adolescent girls.

4. The nurse administrator should take interest in disseminating the information through instructional materials such as pamphlets, posters, modules that impart health information to the adolescent girls.

5. The health education cell in the nursing inservice department can be facilitated by the data obtained from the study.

NURSING RESEARCH:

1. It is essential to identify the problems of adolescent girls, extensive research may be conducted in this area and to identify the causes for dysmenorrhoea and its management.

2. Findings of this study will provide baseline data for the future studies to build upon.

3. The nurse researcher can narrow down the present research topic into more precise and clear as specific symptoms arise during dysmenorrhoea and management of those problems individually can be studied.

LIMITATIONS:

The study is limited to:

- Adolescent girls studying in selected college of at Coimbatore.
- Pain is measured by pain scale
- 50 samples were taken for the study

RECOMMENDATIONS:

- A similar study may be done on a large sample for broader generalization.
- A study may be made to assess the health status of the adolescent girls.

- A descriptive study may be conducted to assess the quality of life of adolescent girls with dysmenorrhoea.

- A study may be conducted in urban and rural to find out the difference in knowledge of managing dysmenorrhoea.

- A study may be carried out to assess the knowledge of menstrual hygiene among adolescent girls.

- A comparative study may be carried out between the illiterates and literates.

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APPENDICES

APPENDIX- A

I- DEMOGRAPHIC VARIABLES

NAME: **SAMPLE NO:**

1.Age in years

a) 17 yrs
b) 18yrs
c) 19yrs
d) 20yrs
e) 21yrs

2. Religion

a) Christian
b) Hindu
c) Muslim

3. Body built

a) Thin
b) Moderate
c) Obese

4. Onset of menarche

a) 12yrs
b) 13yrs
c) 14yrs
d) 15yrs

5. History of menstrual cycle

a) Regular
b) Irregular

6. Number of days of menstrual flow

a) 1 to 3 days
b) 4 to 5 days
c) above 5 days

7. Number of pads used in a day

a) 2
b) 3
c) 4 and above

8 .Duration of pain

a) First 24 hours of menstruation
b) 24hours to 48 hours of menstruation
c) More than 48 hours

9. Management of dysmenorrhoea

a) Pharmacological management
b) Non-pharmacological management
c) None

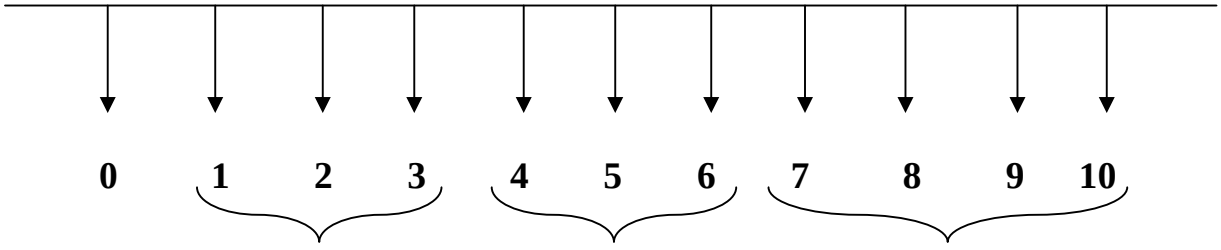
10. Family history of dysmenorrhoea

a) Yes
b) No

II- MCCAFFERY NUMERICAL PAIN INTENSITY SCALE

INSTRUCTION:

Please indicate how much pain do you feel by encircling the number



0→ NO PAIN

1-3 → MILD

4-6 →MODERATE

7-10 →SEVERE

APPENDIX B

LIST OF EXPERTS WHO VALIDATED THE TOOL

1. **Dr.Arati.A.,M.S.,DNB (OG)**
   Obstetrician and Gynecologist,
   Dr.Balakrishnan Hospital,
   Coimbatore.

2. **Dr.V.Nandhini.,DGO,DNB (OG)**
   Snekaram Hospital
   Selvapuram
   Coimbatore.

3. **Mrs.R.Renuka M.Sc (N),**
   Professor,
   HOD of OBG nursing department,
   SRIPMS Institute of Paramedical Science,
   Coimbatore.

4. **Mrs. Chithra Ramkumar M.Sc (N),**
   Professor,
   SRIPMS Institute of Paramedical Science,
   Coimbatore.

5. **Mrs.T.Umadevi**
   Professor,
   SRIPMS Institute of Paramedical Science,
   Coimbatore

6. **Mrs.A.Sahayamary M.Sc (N),**
   Reader,
   Annai Meenakshi College of Nursing
   Coimbatore.

7. **Mrs.M.Mumtaz M.Sc (N),**
   Professor,
   Annai Meenakshi College of Nursing
   Coimbatore.

APPENDIX -C

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TO WHOMSOEVER IT MAY CONCERN

This tool which is submitted by **Mrs.AMUTHA RANI L.S** on **"Effectiveness of Hot application on abdominal pain in dysmenorrhoea among adolescent girls in selected college at Coimbatore."** is valued by me.

Signature

APPENDIX -D

FORMAT FOR EXPERTS OPINION

INSTRUCTIONS

Kindly go through the items in the enclosed tool and place a tick mark against each item in the column provided indicating your opinion best

There are 2 column namely Agree and Disagree

If there are any suggestions, please mention them in the remarks column

DEMOGRAPHIC DATA

Sl.no	Agree	Disagree	Remarks
1			
2			
3			
4			
5			
6			
7			\